
Subject: orientation of WSF and layer strength
Posted by [thomashuang.net](#) on Tue, 04 Oct 2011 05:38:17 GMT
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does orientation affect layer strength in white strong and flexible?
For example, I have a cylinder, is it stronger if orientated flat, on it's side, or tilted on it's edge?
I know that orientation is controlled by shapeways, but so far all my parts have been created in the orientation i exported.

Subject: Re: orientation of WSF and layer strength
Posted by [TomZ](#) on Tue, 04 Oct 2011 06:23:45 GMT
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Generally the axis the object is printed along is the weakest direction. I'm not sure if it's much of an issue with WSF (I think it's not as the layer bonds are quite strong) but with FDM (Grey Robust) part orientation definitely is an issue and a part is quite more likely to fail along a printing layer. I don't think that with WSF there's really a good reason to prefer one orientation over another. I guess printing on the side would give the strongest result but printing along the axis would give you a smoother outer surface. Still, WSF is pretty strong and I've never really seen layer separation in any of my prints so I wouldn't worry about it.

Subject: Re: orientation of WSF and layer strength
Posted by [duann](#) on Tue, 04 Oct 2011 06:52:33 GMT
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Hi thomashuang.net

There is a slight difference of strength in orientation with the Z axis being slightly weaker in my experience.

Subject: Re: orientation of WSF and layer strength
Posted by [Bunrattypark](#) on Tue, 04 Oct 2011 13:03:36 GMT
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There's a very definite difference. I had some model buses printed and polished. In one orientation, the models were printed and polished perfectly, 100% quality.

However, another batch were printed with a different orientation, and as well as unsightly layering

along large areas of the model, at least twenty or thirty small detail parts sheared off, leaving the models unsightly and with a lot of remedial work to do.

For the casual customer, this leaves me with a dilemma. Either I design out a lot of the small detail which gives these models their accuracy and quality, or I leave in the detail, and worry that some customers receive a very substandard model, for the same price as a 100% quality model.

I would very definitely put in a vote for choice of orientation, as it hugely affects the quality or otherwise of some very detailed models I wish to sell.
